

ELECTRICAL DETECTION OF DICING DAMAGE

Abstract

Electrical detection is provided for dicing damage to moisture barrier/edge seals of IC chips which include a low-K dielectric material, a moisture barrier/edge seal for the IC chip, and a moisture damage sensor circuit positioned on the IC chip in proximity to the moisture barrier/edge seal. One or a plurality of moisture barrier/edge seals can be positioned along peripheral edges of the IC chip, and one or more moisture damage sensor circuit(s) can be positioned between the plurality of moisture barrier/edge seal(s), or between an active area of the IC chip and the moisture barrier/edge seal(s), or on a peripheral area of the IC chip outside of the moisture barrier/edge seal(s). The sensor circuit can comprise a single or a plurality of, via chain(s) including a plurality of vias connected in series, or wire monitor circuit(s) extending in a serpentine conductive path through a plurality of wiring levels and vias, or interconnect(s), and the system can monitor the resistance(s) or leakage(s) or ratio(s) of parameters of the sensor circuit(s).